

AMENDMENTS TO THE SPECIFICATION:

Please amend the heading beginning at page 1, line 4, as follows:

Technical Field of the invention

Please amend the heading beginning at page 1, line 11, as follows:

Background of the invention

Please amend the heading beginning at page 5, line 1, as follows:

Summary of the invention

Please amend the paragraph beginning at page 5, line 2, as follows:

The problem is solved ~~by the present invention~~ by distributing the macro diversity functionality from the RNC to another node in the UTRAN closer to the mobile terminal. The node is referred to as a Diversity Handover (DHO) enabled node and may be a node in the UTRAN transport network such as a router or a Node B or even a future type of node, e.g. a specialised DHO node. Thus the splitting and combining of the traffics flows may be performed in a router in the transport network or in a Node B. The macro diversity functionality may also be distributed to more than one such other node so that several splitting and combining nodes are interconnected in a way that a hierarchical tree of macro diversity data flows is formed.

Please amend the paragraph beginning at page 5, line 19, as follows:

Thus, ~~the~~ an object of ~~the present invention~~ is to achieve a method and arrangements for solving the problem of the timing of the uplink combining procedure.

Please amend the paragraph beginning at page 5, line 23, as follows:

~~The most~~ An important advantage achieved ~~by the present invention~~ is transmission savings in the UTRAN transport network, which translate into significant cost savings for the operator. The transmission savings are realised through optimised location of the DHO functionality. Thereby the redundant data transport is eliminated in the parts of the path, where data pertaining to different macro diversity legs of the same DCH would otherwise be transported in parallel along the same route.

Please amend the paragraph beginning at page 5, line 31, as follows:

~~Another advantage of the present invention~~ is that it facilitates that RNCs may be located in more central locations of the network (i.e. with less geographical distribution). The main purpose of the current common geographical distribution of RNCs is to limit the transmission costs for the parallel macro diversity legs. When this parallel data transport is eliminated, it becomes more beneficial for an operator to centralise the RNCs, e.g. by co-locating them with Mobile Switching Centres (MSCs) or Media Gateways (MGWs). Co-locating several nodes on the same site results in simplified operation and maintenance, which also means reduced costs for the operator.

Please amend the paragraph beginning at page 6, line 15, as follows:

Fig. 4a and 4b illustrates schematically potential transmission savings in a network ~~according to the present invention.~~

Please amend the paragraph beginning at page 6, line 17, as follows:

Fig. 5 is a schematic reference figure for the timing algorithm 1 ~~according to the present invention.~~

Please amend the paragraph beginning at page 6, line 19, as follows:

Fig. 6 is a schematic reference figure for algorithm 1 when relative times are used according to an embodiment ~~of the present invention.~~

Please amend the paragraph beginning at page 6, line 21, as follows:

Fig. 7 and **fig. 8** illustrate schematically the combining timing scheme according to one embodiment ~~of the present invention.~~

Please amend the paragraph beginning at page 6, line 27, as follows:

Figure 11 is a flowchart of ~~the method according to the present invention.~~

Please amend the heading beginning at page 6, line 30, as follows:

Detailed description ~~Description~~

Please amend the paragraph beginning at page 6, line 31, as follows:

~~The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which preferred Example, non-limiting embodiments of the invention are shown now described.~~ This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein~~[[;]]~~ rather ~~these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art.~~ In the drawings, like numbers refer to like elements.

Please amend the paragraph beginning at page 7, line 8, as follows:

In the ~~further description, of the present invention~~ coordinated DCHs are not specifically treated. ~~In the aspects that are significant to the present invention a~~ A set of coordinated DCHs is treated in the same way as a single separate DCH. The DCHs of a set of coordinated DCHs use a common transport bearer and in an IP UTRAN the frames (of a set of coordinated DCHs) with the same CFN are included in the same UDP packet. The special combining procedure for coordinated DCHs has been described above. Thus, omitting coordinated DCHs serves to simplify the description ~~of the present invention and makes the text more readable~~~~[[.]]~~, ~~To generalize the description of the present invention so as to comprise coordinated DCHs would be obvious for but~~ a person skilled in the art~~[[,]]~~ ~~although it would significantly complicate the text~~ understands coordinated DCHs are encompassed by the technology described.

Please amend the paragraph beginning at page 7, line 20, as follows:

The ~~present invention~~ technology may be implemented in a UTRAN having an Internet Protocol (IP)-based transport network as illustrated in **figure 1**. The IP based transport network may be

controlled by an IP of version 4, 6 or future versions. The ~~present invention~~ technology may also be implemented in a UTRAN having an Asynchronous Transfer Mode (ATM) based transport network.

Please amend the paragraph beginning at page 7, line 26, as follows:

In order to reduce the required transmission resources, ~~the present invention proposes to distribute~~ the macro diversity functionality is distributed from the RNC to another node in the UTRAN closer to the mobile terminal. The node is referred to as a DHO enabled node and may be a node in the UTRAN transport network such as a router or a Node B or even a future type of node, e.g. a specialized DHO node. Thus the splitting and combining of the traffics flows may be performed in a router in the transport network or in a Node B. The macro diversity functionality may also be distributed to more than one such other node such that several splitting and combining nodes are interconnected in a way that a hierarchical tree of macro diversity data flows is formed.

Please amend the paragraph beginning at page 10, line 14, as follows:

A Node B transmits data once every TTI. The size of the TTI may vary for different DCHs, whereas the CFN is always incremented at a constant rate (with a period of 10 ms) that is higher than that of the smallest possible TTI. Thus, depending on the size of the TTI the difference between the CFNs of two consecutive DCH FP data frames may be different for different DCHs. For simplicity this circumstance is disregarded during the further description ~~of the present invention~~.

Please amend the paragraph beginning at page 13, line 29, as follows:

An RNC (i.e. an SRNC or a combining DRNC) may use the same timing principle (and algorithm if any) as in today's UTRANs without distributed DHO functionality, but it may also use any timing algorithm described in the example ~~embodiments of the present invention~~. If an RNC uses a timing algorithm that requires a time reference, it can estimate a reasonable time reference based on the synchronization between the RNC and the Node Bs which is acquired e.g. by using a Node Synchronisation procedure.

Please amend the paragraph beginning at page 14, line 4, as follows:

Hence, one way to overcome the above stated problem is ~~according to the present invention~~ to let the DHO node define an adaptive latest accepted time of arrival (LAToA) for a next DCH frame or a next set of frames to be combined, i.e. the expected frame or frames with a certain Connection Frame Number (CFN). The object is to adapt the LAToA to the maximum transport delay that the frame or frames is/are allowed to experience on its/their path(s) from the originating Node B(s) to the DHO node, assuming that this transport delay very seldom exceeds the maximum allowed transport delay as stipulated by standard requirements.

Please amend the paragraph beginning at page 16, line 14, as follows:

In accordance with an example ~~embodiment of the invention~~, the LAToA_{init} is not signalled from the RNC, but it is set to a preconfigured default value. This default value may be different or one and the same for different QoS classes. E.g. one for each delay class if delay classes are used. It may also be derived from the DCH characteristics (e.g. those signalled from the RNC when the DCH is established). In any case the default LAToA_{init} value should be conservatively set such

that the initial receive window is only a rather small fraction (e.g. 10%) of the maximum allowed total transport delay in the UTRAN for the concerned delay class if applicable.

Please amend the paragraph beginning at page 48, line 6, as follows:

The method illustrated in the flowchart of **figure 11** for executing a macro diversity functionality in a mobile telecommunication system comprising the step of performing an uplink combining of Dedicated Channel, DCH, frames ~~of the present invention~~ comprises the steps of

Please amend the paragraph beginning at page 48, line 19, as follows:

The method may as described above be implemented in one or more DHO nodes. Furthermore, the method and thus functionality of the RNC, the Node Bs and the routers and possible other types of nodes acting as DHO nodes used in the present invention may be implemented by a computer program product. The computer program product is directly loadable into the internal memory of a computer within one or more nodes, in the mobile telecommunication network ~~according to the present invention~~, comprising the software code portions for performing the steps of the method ~~according to the present invention~~. The computer program product is further stored on a computer usable medium, comprising a readable program for causing a computer, within a router, server, RNC or Node B or other type of node comprising DHO functionality in the mobile telecommunication network ~~according to the present invention~~, to control an execution of the steps of the method ~~of the present invention~~.

Please amend the paragraph beginning at page 49, line 1, as follows:

RUNE

Appl. No. 10/583,617

May 10, 2010

In the drawings and specification, there have been disclosed typical preferred example embodiments ~~of the invention~~ and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation~~[[,]]~~. ~~the~~ The scope of the invention ~~being~~ is set forth in the following claims.